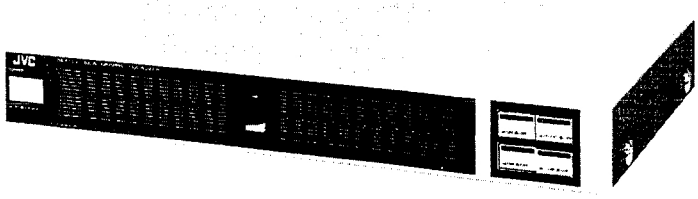
JVC

SERVICE MANUAL

MODEL

SEA-33

S.E.A GRAPHIC EQUALIZER



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Contents

	Page
1. Specifications	1
2. Service Precautions	2
2-(1) Operation and Output	2
2-(2) Exchange of Parts	2
3. Removal Procedures	2
3-(1) Front Panel Section	2
3-(2) Slide Volume P.C. Board Section	2
4. Main Parts Locations	3
4-(1) Front View	3
4-(2) Top View	3
4-(3) Rear View	3
5. Exploded View and Part Numbers	4
6. Printed Circuit Board Ass'y and Parts List	5
7. SEA-33 Schematic Diagram	9
8. Packing Materials and Part Numbers	10
9. Accessories List	10
10. Parts List with Specified Numbers for Designated Areas	Back cover

Warning:
When placing the parts maked with ⚠ , be sure to use the designated parts to ensure safety.

1. Specifications

Circuitry
Semiconductor-L circuit : Transistor-inductor circuit

Input section
LINE : Input impedance; 47 k-ohms
TAPE MONITOR : Input impedance; 47 k-ohms

Output section
LINE OUT : Output impedance; 100 ohms
TAPE REC : Output impedance; 100 ohms
TAPE REC (DIN) : Output impedance; 80 k-ohms
Rated output : 2 V RMS (all S.E.A. controls positioned at "0")
Max. output : 7 V RMS (all S.E.A. controls positioned at "0")
Total harmonic distortion : 0.005% (20 Hz – 20 kHz, rated output)
Intermodulation distortion : 0.005% (rated output)
Gain : 0 dB (S.E.A. flat)
Frequency response : 10 Hz – 50 kHz (+0, –2 dB S.E.A. flat)
S/N ratio : 115 dB (at rated output, IHF A-network short circuited)

Control section
SEA center frequencies : 31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, 16 kHz
SEA control range : ± 12 dB

General
Power source : See attached table.
Dimensions : 61 (H) x 435 (W) x 265 (D) mm (2-3/8" x 17-1/8" x 10-7/16")
Weight (NET) : 3.0 kg (6.6 lbs)

POWER SPECIFICATIONS

	U.S.A. & Canada	Europe	U.K. & Australia	Military Market & Other Areas
Power Supply	AC 120 V∿, 60 Hz	AC220 V∿, 50 Hz	AC240 V∿, 50 Hz	AC 110/120/220/240 V∿ selectable, 50/60 Hz
Power Consumption	12 watts	12 watts	12 watts	12 watts
Power Outlet	Fitted	Not Fitted	Not Fitted	Fitted
FUSE (Primary) (F001)	QMF61U1-R50 (0.5 A)	QMF51A2-R50L (T500 mA)	QMF51A2-R50L (T500 mA)	QMF51A2-R50L (110/120 V) QMF51A2-R25L (220/240 V)

Design and specifications are subject to change without notice.

2. Service Precautions

2-(1) Operation and Output

TAPE MONITOR	SEA REC	Output at the TAPE REC terminals	Output at the LINE OUT terminals
OFF	OFF	LINE IN signal (without S.E.A. effect)	LINE IN signal (either with or without S.E.A. effect)
	ON	LINE IN signal (either with or without S.E.A. effect)	LINE IN signal (either with or without S.E.A. effect)
ON	OFF	LINE IN signal (without S.E.A. effect)	TAPE signal (either with or without S.E.A. effect)
	ON	LINE IN signal (either with or without S.E.A. effect)	Reproduced tape signal (without S.E.A. effect)

2-(2) Exchange of Parts

1. This unit is made up from of the parts shown in "Exploded View" of Fig. 4. The P.C. board Ass'ies are mounted on the chassis using screws.
   To mount or demount these ass'ies, refer to "Exploded View".
2. The push knobs are fixed to the front panel. The slide knobs are inserted in slide VR controls. When replacing them, remove the front panel in advance.
3. The right and left back plates (guide plates) for the slide knobs are each engaged by 4 catches. When mounting them, pay attention to their directions.
   The right and left back plates are the same type of parts.
4. The right and left slide VR boards are each secured by 5 screws at mounting holes 1, 5 and 10 in the upper side and mounting holes 3 and 8 in the lower side.

3. Removal Procedures

3-(1) Front Panel Section

1. Remove the 6 screws retaining the top cover.
2. Remove the 3 plastic rivets in the upper side and 3 screws in the lower side retaining the front panel.

3-(2) Slide Volume P.C. Board Section

1. Remove the front panel. (Refer to item 3-(1).)
2. Remove the 20 slide knobs; 10 from the right channel side and other 10 from the left channel side.
3. Pull out each back plate toward you while holding the 2 catches of its upper side.
4. Remove the 10 screws retaining the slide VR P.C. boards; 5 from the fight board and 5 form the left board.

4. Main Parts Locations

4-(1) Front View

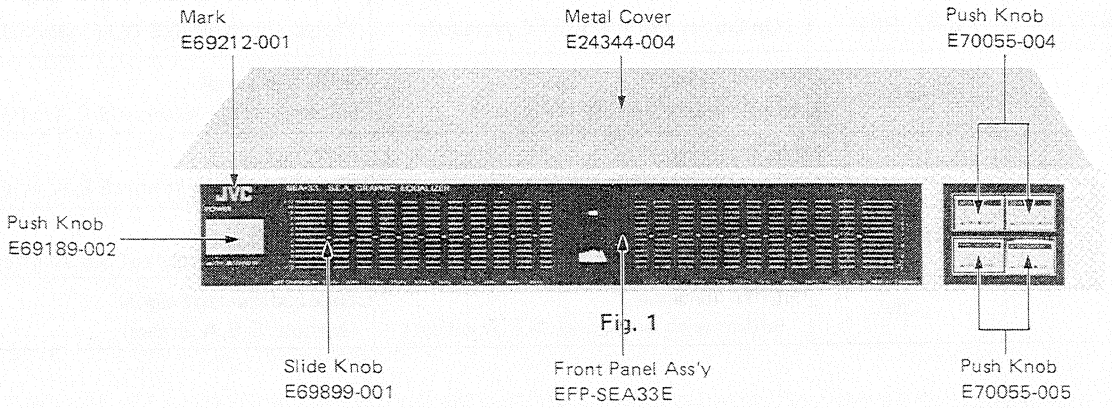
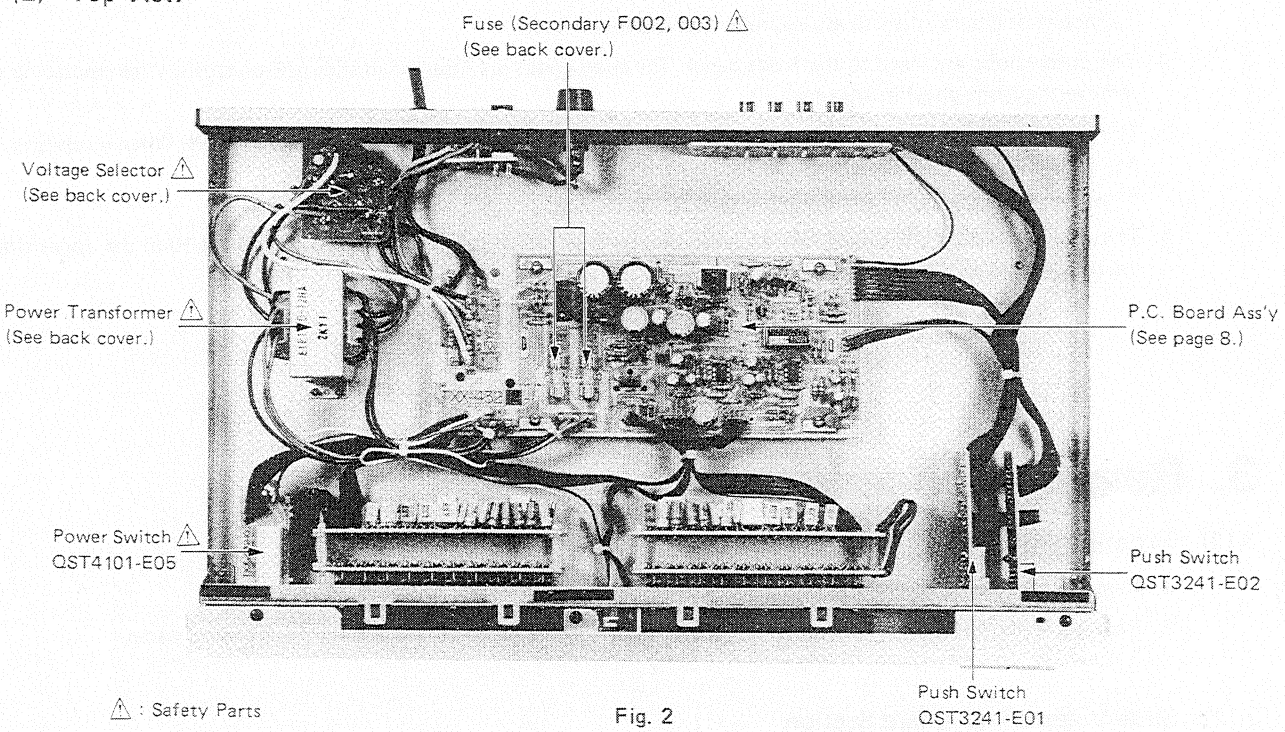


Fig. 1

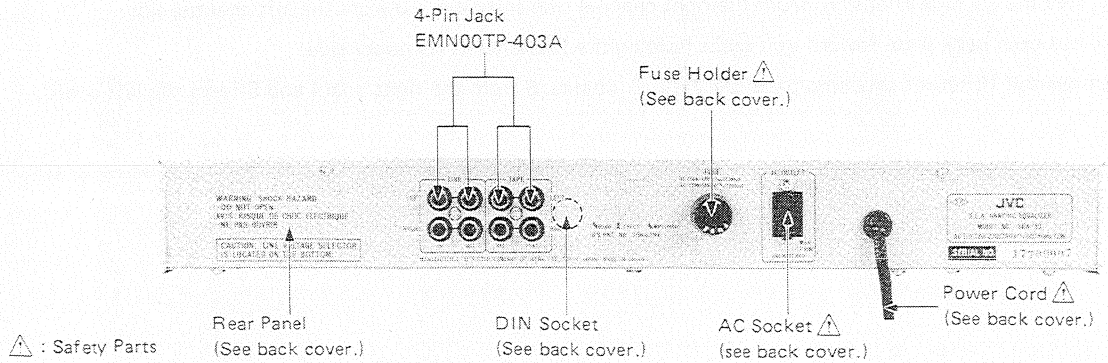
4-(2) Top View



⚠ : Safety Parts

Fig. 2

4-(3) Rear View



⚠ : Safety Parts

Fig. 3

5. Exploded View and Part Numbers

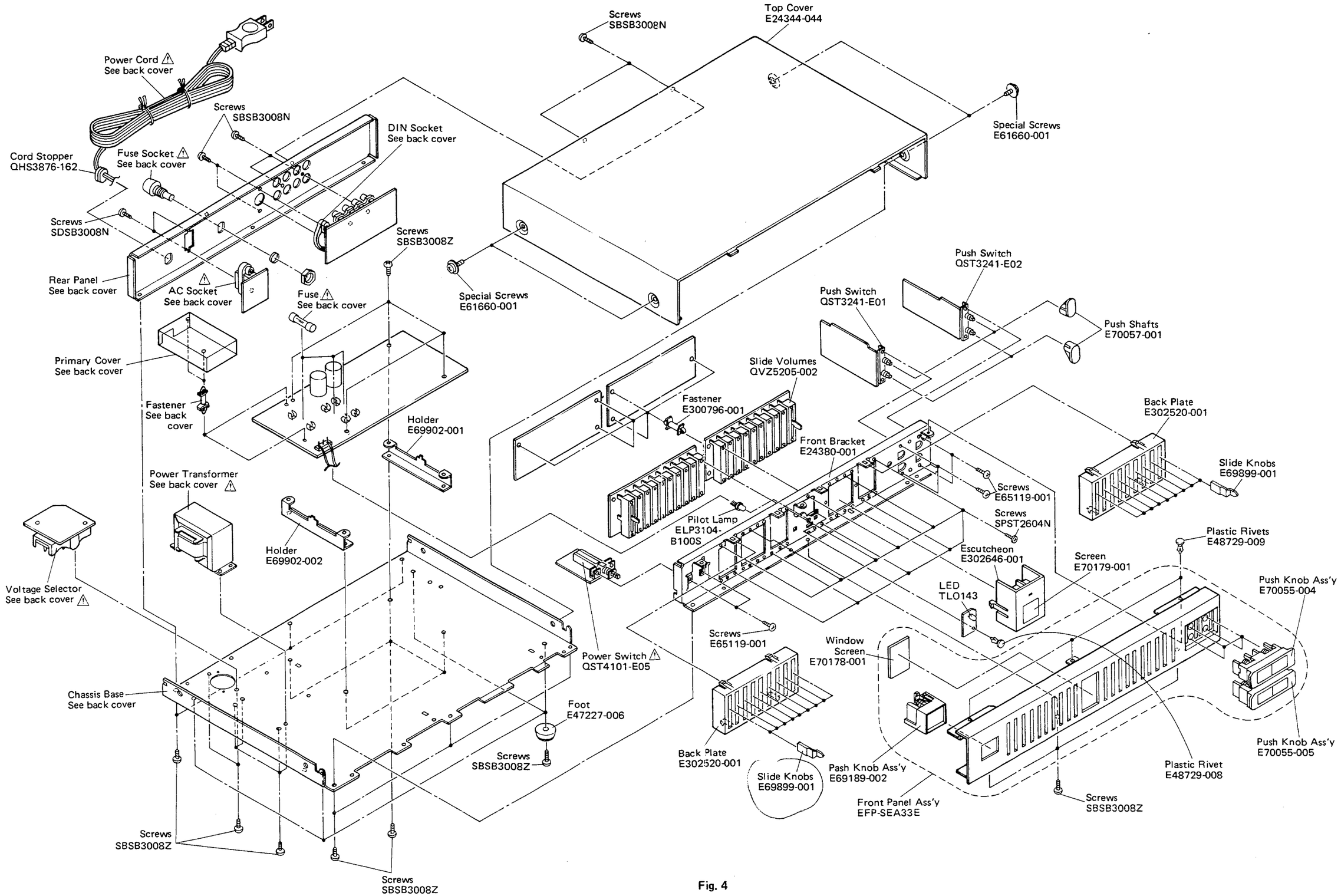
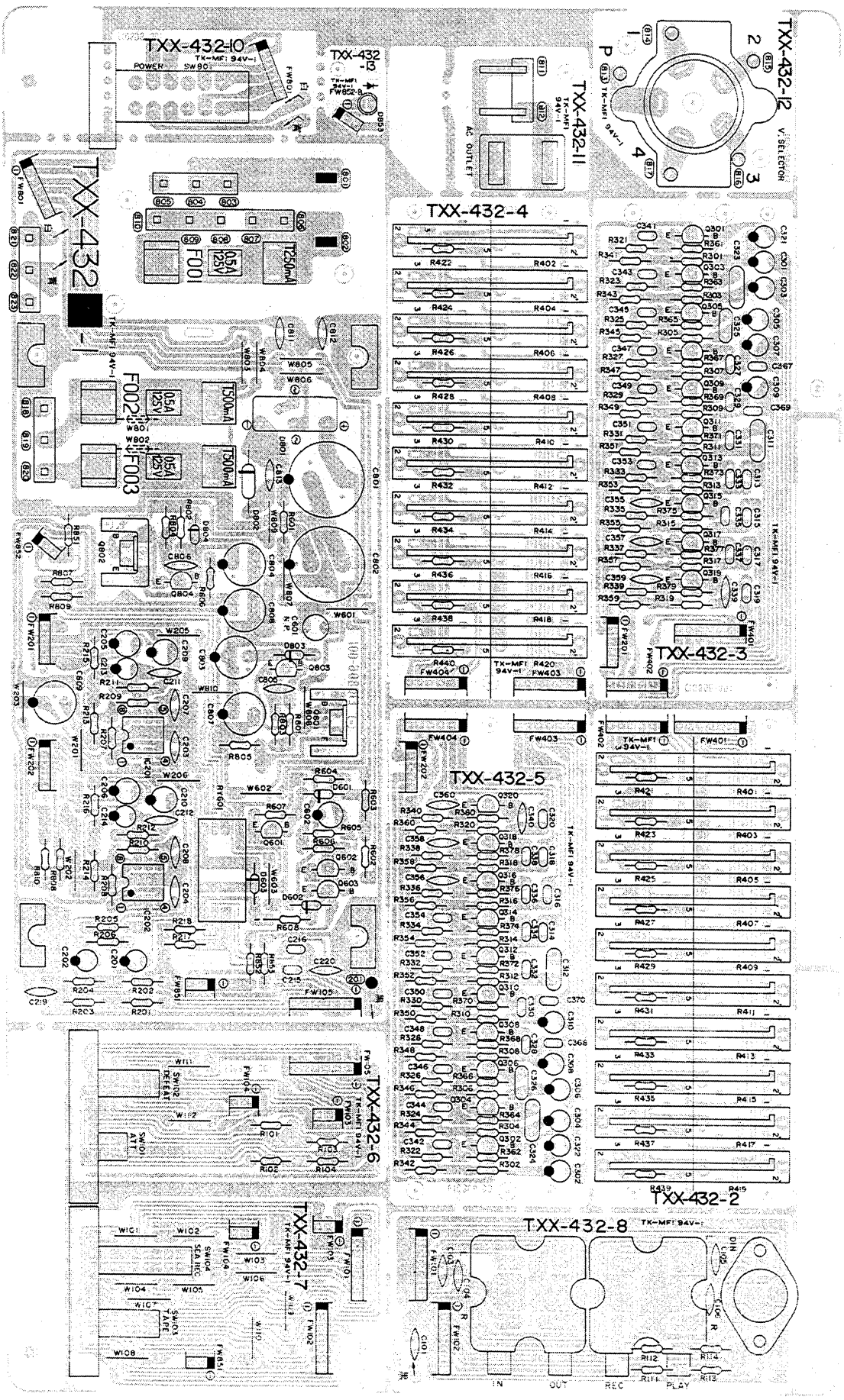


Fig. 4

⚠ : Safety Parts

6.Printed Circuit Board Ass'y and Parts List

TXX-432□ P.C. Board Ass'y

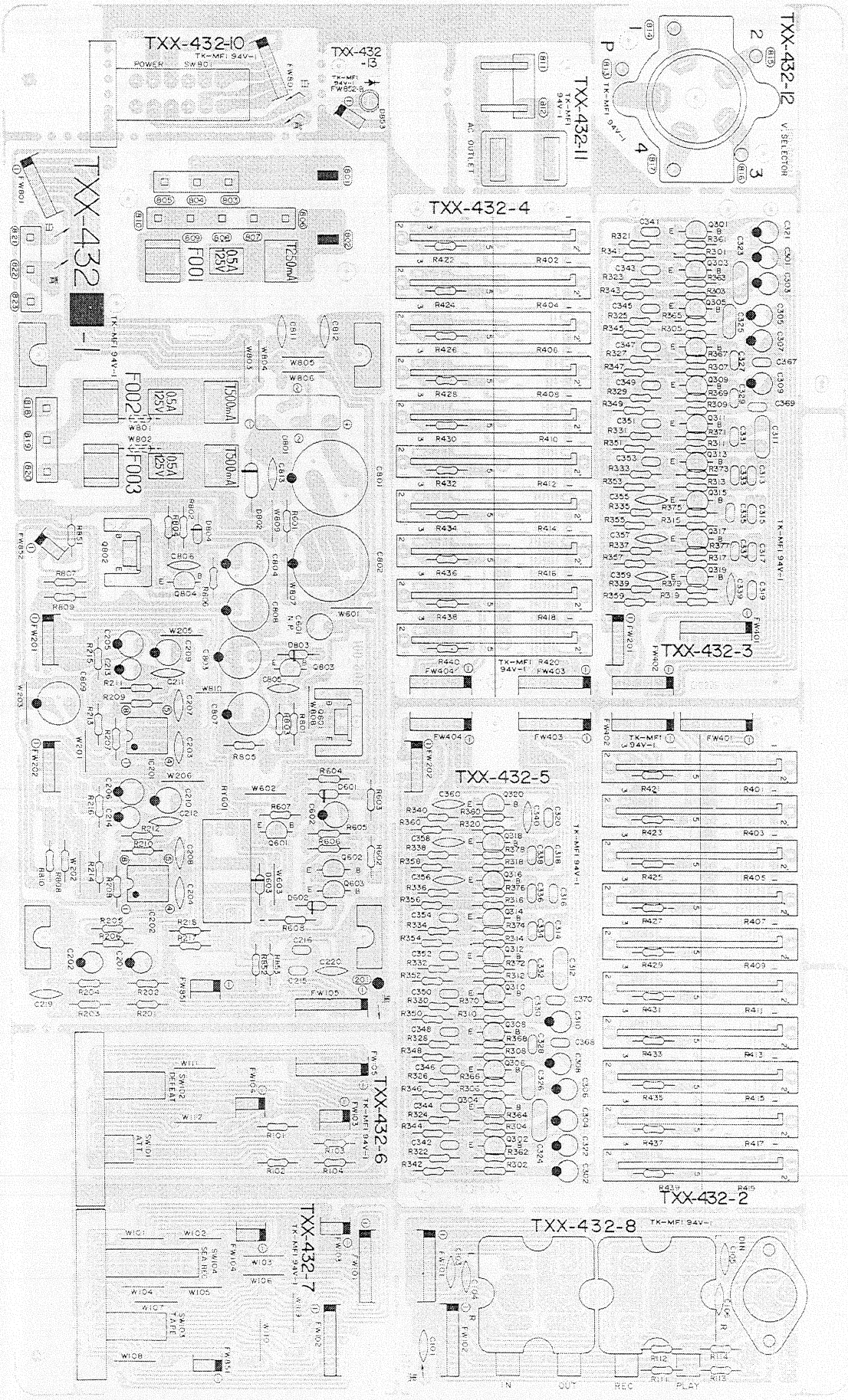


Note: The symbols (白、黒、青 ..... etc.) are factory process only.

Fig. 5

6.Printed Circuit Board Ass'y and Parts List

TXX-432□ P.C. Board Ass'y



Note: The symbols (白、黒、青 ..... etc.) are factory process only.

Fig. 5

Transistors

Item No.	Part Number	Rating	Description	
				Maker
Q301	2SC2240(A,B)		Silicon	Toshiba
Q302	2SC2240(A,B)		"	"
Q303	2SC2240(A,B)		"	"
Q304	2SC2240(A,B)		"	"
Q305	2SC2240(A,B)		"	"
Q306	2SC2240(A,B)		"	"
Q307	2SC2240(A,B)		"	"
Q308	2SC2240(A,B)		"	"
Q309	2SC2240(A,B)		"	"
Q310	2SC2240(A,B)		"	"
Q311	2SC2240(A,B)		"	"
Q312	2SC2240(A,B)		"	"
Q313	2SC2240(A,B)		"	"
Q314	2SC2240(A,B)		"	"
Q315	2SC2240(A,B)		"	"
Q316	2SC2240(A,B)		"	"
Q317	2SC2240(A,B)		"	"
Q318	2SC2240(A,B)		"	"
Q319	2SC2240(A,B)		"	"
Q320	2SC2240(A,B)		"	"
Q601	2SC458(D)		"	Hitachi
Q602	2SC458(D)		"	"
Q603	2SC458(D)		"	"
Q801	2SD313V(D,E)		"	Sanyo
Q802	2SB507V(D,E)		"	"
Q803	2SC1775AV(F)		"	Hitachi
Q804	2SA872AV(E)		"	"

Integrated Circuits

Item No.	Part Number	Rating	Description	
				Maker
IC201	NJM4560D-X			JRC
IC202	NJM4560D-X			"

Diodes

Item No.	Part Number	Rating	Description	
				Maker
D601	1S2076-31		Silicon	Hitachi
D602	1S2076-31		"	"
D603	1S2076-31		"	"
D801	S1RBA20F1		"	Shin Dengen
D802	ER812-02RKL1		"	Fuji Denki
D803	RD15EB3		Zener	NEC
D804	RD15EB3		"	"
D851	TLR143		L.E.D.	Toshiba
D852	TLG143		"	"
D853	TL0143		"	"

Capacitors

Item No.	Part Number	Rating		Description
C101	QCF31HP-473Z	0.047 μF	50 V	Ceramic
C103	QCS31HJ-560Z	56 pF	50 V	"
C104	QCS31HJ-560Z	56 pF	50 V	"
C105	QCS31HJ-560Z	56 pF	50 V	"
C106	QCS31HJ-560Z	56 pF	50 V	"
C111	QCF31HP-223Z	0.022 μF	50 V	"
C201	QET61HM-105Z	1 μF	50 V	Electrolytic
C202	QET61HM-105Z	1 μF	50 V	"
C203	QCS31HJ-101Z	100 pF	50 V	Ceramic (See page 8)
C203	QCS31HJ-331Z	330 pF	50 V	" (")
C204	QCS31HJ-101Z	100 pF	50 V	" (")
C204	QCS31HJ-331Z	330 pF	50 V	" (")
C205	QET61CM-476Z	47 μF	16 V	Electrolytic
C206	QET61CM-476Z	47 μF	16 V	"
C207	QCS31HJ-121Z	120 pF	50 V	Ceramic
C208	QCS31HJ-121Z	120 pF	50 V	"
C209	QET61CM-476Z	47 μF	16 V	Electrolytic
C210	QET61CM-476Z	47 μF	16 V	"
C211	QCS31HJ-271Z	220 pF	50 V	Ceramic
C212	QCS31HJ-271Z	220 pF	50 V	"
C213	QET61EM-106Z	10 μF	16 V	Electrolytic
C214	QET61EM-106Z	10 μF	16 V	"
C215	QFM31HK-103Z	0.01 μF	50 V	Mylar (See page 8)
C215	QFM31HK-472Z	4700 pF	50 V	" (")
C216	QFM31HK-103Z	0.01 μF	50 V	" (")
C216	QFM31HK-472Z	4700 pF	50 V	" (")
C217	QFM31HK-822Z	8200 pF	50 V	"
C218	QFM31HK-822Z	8200 pF	50 V	"
C220	QCF31HP-473Z	0.047 μF	50 V	Ceramic
C301	QET61HM-475Z	4.7 μF	50 V	Electrolytic
C302	QET61HM-475Z	4.7 μF	50 V	"
C303	QET61HM-225Z	2.2 μF	50 V	"
C304	QET61HM-225Z	2.2 μF	50 V	"
C305	QET61HM-105Z	1 μF	50 V	"
C306	QET61HM-105Z	1 μF	50 V	"
C307	QET61HM-474Z	0.47 μF	50 V	"
C308	QET61HM-474Z	0.47 μF	50 V	"
C309	QEB51HM-224	0.22 μF	50 V	L.L.C. Electrolytic
C310	QEB51HM-224	0.22 μF	50 V	"
C311	QFM81HJ-154	0.15 μF	50 V	Mylar
C312	QFM81HJ-154	0.15 μF	50 V	"
C313	QFM31HJ-683Z	0.068 μF	50 V	"
C314	QFM31HJ-683Z	0.068 μF	50 V	"
C315	QFM31HJ-333Z	0.033 μF	50 V	"
C316	QFM31HJ-333Z	0.033 μF	50 V	"
C317	QFM31HJ-183Z	0.018 μF	50 V	"
C318	QFM31HJ-183Z	0.018 μF	50 V	"
C319	QFM31HJ-103Z	0.01 μF	50 V	"
C320	QFM31HJ-103Z	0.01 μF	50 V	"
C321	QEB51HM-334	0.33 μF	50 V	L.L.C. Electrolytic
C322	QEB51HM-334	0.33 μF	50 V	"
C323	QFM81HJ-154	0.15 μF	50 V	Mylar
C324	QFM81HJ-154	0.15 μF	50 V	"
C325	QFM31HJ-104Z	0.1 μF	50 V	"
C326	QFM31HJ-104Z	0.1 μF	50 V	"
C327	QFM31HJ-393Z	0.039 μF	50 V	"
C328	QFM31HJ-393Z	0.039 μF	50 V	"
C329	QFM31HJ-183Z	0.018 μF	50 V	"
C330	QFM31HJ-183Z	0.018 μF	50 V	"
C331	QFM31HJ-103Z	0.01 μF	50 V	"
C332	QFM31HJ-103Z	0.01 μF	50 V	"
C333	QFM31HJ-562Z	5600 pF	50 V	"
C334	QFM31HJ-562Z	5600 pF	50 V	"
C335	QFM31HJ-332Z	3300 pF	50 V	"
C336	QFM31HJ-332Z	3300 pF	50 V	"
C337	QFM31HJ-152Z	1500 pF	50 V	"
C338	QFM31HJ-152Z	1500 pF	50 V	"
C339	QCS31HJ-561Z	560 pF	50 V	Ceramic
C340	QCS31HJ-561Z	560 pF	50 V	"
C341	QFM31HJ-473Z	0.047 μF	50 V	Mylar
C342	QFM31HJ-473Z	0.047 μF	50 V	"
C343	QFM31HJ-223Z	0.022 μF	50 V	"
C344	QFM31HJ-223Z	0.022 μF	50 V	"
C345	QFM31HJ-153Z	0.015 μF	50 V	"
C346	QFM31HJ-153Z	0.015 μF	50 V	"

Capacitors

Item No.	Part Number	Rating		Description
C347	QFM31HJ-822Z	8200 pF	50 V	Mylar
C348	QFM31HJ-822Z	8200 pF	50 V	"
C349	QFM31HJ-392Z	3900 pF	50 V	"
C350	QFM31HJ-392Z	3900 pF	50 V	"
C351	QFM31HJ-222Z	2200 pF	50 V	"
C352	QFM31HJ-222Z	2200 pF	50 V	"
C353	QFM31HJ-122Z	1200 pF	50 V	"
C354	QFM31HJ-122Z	1200 pF	50 V	"
C355	QCS31HJ-681Z	680 pF	50 V	Ceramic
C356	QCS31HJ-681Z	680 pF	50 V	"
C357	QCS31HJ-331Z	330 pF	50 V	"
C358	QCS31HJ-331Z	330 pF	50 V	"
C359	QCS31HJ-470Z	47 pF	50 V	"
C360	QCS31HJ-470Z	47 pF	50 V	"
C367	QFM31HJ-823Z	0.082 μF	50 V	Mylar
C368	QFM31HJ-823Z	0.082 μF	50 V	"
C369	QFM31HJ-473Z	0.047 μF	50 V	"
C370	QFM31HJ-473Z	0.047 μF	50 V	"
C601	QEN51HM-225	2.2 μF	50 V	N.P. Electrolytic
C602	QET61CM-476Z	47 μF	16 V	Electrolytic
C801	QEU51VM-228M	2200 μF	35 V	"
C802	QEU51VM-228M	2200 μF	35 V	"
C803	QET51EM-477	470 μF	25 V	"
C804	QET51EM-477	470 μF	25 V	"
C805	QCF31HP-103Z	0.01 μF	50 V	Ceramic
C806	QCF31HP-103Z	0.01 μF	50 V	"
C807	QET51CM-107	100 μF	16 V	Electrolytic
C808	QET51CM-107	100 μF	16 V	"
C809	QET51CM-108	1000 μF	16 V	"
C811	QFM32AK-473Z	0.047 μF	100 V	Mylar
C812	QFM31HK-223Z	0.022 μF	50 V	"
C813	QCF31HP-223Z	0.022 μF	50 V	"

Resistors

Item No.	Part Number	Rating		Description
R001	QRC121K-275EM	2.7 MΩ	1/2 W	Composition (See page 8)
R101	QRD141J-623S	62 kΩ	1/4 W	Carbon
R102	QRD141J-623S	62 kΩ	1/4 W	"
R103	QRD141J-474S	470 kΩ	1/4 W	"
R104	QRD141J-474S	470 kΩ	1/4 W	"
R111	QRD141J-104S	100 kΩ	1/4 W	" (See page 8)
R112	QRD141J-104S	100 kΩ	1/4 W	" (")
R113	QRD141J-334S	330 kΩ	1/4 W	" (")
R114	QRD141J-334S	330 kΩ	1/4 W	" (")
R201	QRD141J-390S	39 Ω	1/4 W	" (")
R201	QRD141J-561S	560 Ω	1/4 W	" (")
R202	QRD141J-390S	39 Ω	1/4 W	" (")
R202	QRD141J-561S	560 Ω	1/4 W	" (")
R203	QRD141J-224S	220 kΩ	1/4 W	"
R204	QRD141J-224S	220 kΩ	1/4 W	"
R205	QRD141J-104S	100 kΩ	1/4 W	"
R206	QRD141J-104S	100 kΩ	1/4 W	"
R207	QRD141J-392S	3.9 kΩ	1/4 W	"
R208	QRD141J-392S	3.9 kΩ	1/4 W	"
R209	QRD141J-121S	120 Ω	1/4 W	"
R210	QRD141J-121S	120 Ω	1/4 W	"
R211	QRD141J-392S	3.9 kΩ	1/4 W	"
R212	QRD141J-392S	3.9 kΩ	1/4 W	"
R213	QRD141J-223S	22 kΩ	1/4 W	"
R214	QRD141J-223S	22 kΩ	1/4 W	"
R215	QRD141J-101S	100 Ω	1/4 W	"
R216	QRD141J-101S	100 Ω	1/4 W	"
R217	QRD141J-223S	22 kΩ	1/4 W	"
R218	QRD141J-223S	22 kΩ	1/4 W	"
R301	QRD141J-431S	430 Ω	1/4 W	"
R302	QRD141J-431S	430 Ω	1/4 W	"
R303	QRD141J-471S	470 Ω	1/4 W	"
R304	QRD141J-471S	470 Ω	1/4 W	"
R305	QRD141J-471S	470 Ω	1/4 W	"
R306	QRD141J-471S	470 Ω	1/4 W	"

Resistors

Item No.	Part Number	Rating		Description
R307	QRD141J-471S	470 Ω	1/4 W	Carbon
R308	QRD141J-471S	470 Ω	1/4 W	"
R309	QRD141J-471S	470 Ω	1/4 W	"
R310	QRD141J-471S	470 Ω	1/4 W	"
R311	QRD141J-471S	470 Ω	1/4 W	"
R312	QRD141J-471S	470 Ω	1/4 W	"
R313	QRD141J-471S	470 Ω	1/4 W	"
R314	QRD141J-471S	470 Ω	1/4 W	"
R315	QRD141J-471S	470 Ω	1/4 W	"
R316	QRD141J-471S	470 Ω	1/4 W	"
R317	QRD141J-471S	470 Ω	1/4 W	"
R318	QRD141J-471S	470 Ω	1/4 W	"
R319	QRD141J-431S	430 Ω	1/4 W	"
R320	QRD141J-431S	430 Ω	1/4 W	"
R321	QRD141J-363S	36 kΩ	1/4 W	"
R322	QRD141J-363S	36 kΩ	1/4 W	"
R323	QRD141J-363S	36 kΩ	1/4 W	"
R324	QRD141J-363S	36 kΩ	1/4 W	"
R325	QRD141J-303S	30 kΩ	1/4 W	"
R326	QRD141J-303S	30 kΩ	1/4 W	"
R327	QRD141J-363S	36 kΩ	1/4 W	"
R328	QRD141J-363S	36 kΩ	1/4 W	"
R329	QRD141J-473S	47 kΩ	1/4 W	"
R330	QRD141J-473S	47 kΩ	1/4 W	"
R331	QRD141J-333S	33 kΩ	1/4 W	"
R332	QRD141J-333S	33 kΩ	1/4 W	"
R333	QRD141J-333S	33 kΩ	1/4 W	"
R334	QRD141J-333S	33 kΩ	1/4 W	"
R335	QRD141J-273S	27 kΩ	1/4 W	"
R336	QRD141J-273S	27 kΩ	1/4 W	"
R337	QRD141J-273S	27 kΩ	1/4 W	"
R338	QRD141J-273S	27 kΩ	1/4 W	"
R339	QRD141J-363S	36 kΩ	1/4 W	"
R340	QRD141J-363S	36 kΩ	1/4 W	"
R341	QRD141J-272S	2.7 kΩ	1/4 W	"
R342	QRD141J-272S	2.7 kΩ	1/4 W	"
R343	QRD141J-272S	2.7 kΩ	1/4 W	"
R344	QRD141J-272S	2.7 kΩ	1/4 W	"
R345	QRD141J-272S	2.7 kΩ	1/4 W	"
R346	QRD141J-272S	2.7 kΩ	1/4 W	"
R347	QRD141J-272S	2.7 kΩ	1/4 W	"
R348	QRD141J-272S	2.7 kΩ	1/4 W	"
R349	QRD141J-272S	2.7 kΩ	1/4 W	"
R350	QRD141J-272S	2.7 kΩ	1/4 W	"
R351	QRD141J-272S	2.7 kΩ	1/4 W	"
R352	QRD141J-272S	2.7 kΩ	1/4 W	"
R353	QRD141J-272S	2.7 kΩ	1/4 W	"
R354	QRD141J-272S	2.7 kΩ	1/4 W	"
R355	QRD141J-272S	2.7 kΩ	1/4 W	"
R356	QRD141J-272S	2.7 kΩ	1/4 W	"
R357	QRD141J-272S	2.7 kΩ	1/4 W	"
R358	QRD141J-272S	2.7 kΩ	1/4 W	"
R359	QRD141J-272S	2.7 kΩ	1/4 W	"
R360	QRD141J-272S	2.7 kΩ	1/4 W	"
R361	QRD141J-472S	4.7 kΩ	1/4 W	"
R362	QRD141J-472S	4.7 kΩ	1/4 W	"
R363	QRD141J-472S	4.7 kΩ	1/4 W	"
R364	QRD141J-472S	4.7 kΩ	1/4 W	"
R365	QRD141J-472S	4.7 kΩ	1/4 W	"
R366	QRD141J-472S	4.7 kΩ	1/4 W	"
R367	QRD141J-472S	4.7 kΩ	1/4 W	"
R368	QRD141J-472S	4.7 kΩ	1/4 W	"
R369	QRD141J-472S	4.7 kΩ	1/4 W	"
R370	QRD141J-472S	4.7 kΩ	1/4 W	"
R371	QRD141J-472S	4.7 kΩ	1/4 W	"
R372	QRD141J-472S	4.7 kΩ	1/4 W	"
R373	QRD141J-472S	4.7 kΩ	1/4 W	"
R374	QRD141J-472S	4.7 kΩ	1/4 W	"
R375	QRD141J-472S	4.7 kΩ	1/4 W	"
R376	QRD141J-472S	4.7 kΩ	1/4 W	"
R377	QRD141J-472S	4.7 kΩ	1/4 W	"
R378	QRD141J-472S	4.7 kΩ	1/4 W	"
R379	QRD141J-472S	4.7 kΩ	1/4 W	"
R380	QRD141J-472S	4.7 kΩ	1/4 W	"
R401	QVZ5205-002	100 kΩ		Variable

Resistors

Item No.	Part Number	Rating		Description
R402	QVZ5205-002	100 kΩ		Variable
R403	QVZ5205-002	100 kΩ		"
R404	QVZ5205-002	100 kΩ		"
R405	QVZ5205-002	100 kΩ		"
R406	QVZ5205-002	100 kΩ		"
R407	QVZ5205-002	100 kΩ		"
R408	QVZ5205-002	100 kΩ		"
R409	QVZ5205-002	100 kΩ		"
R410	QVZ5205-002	100 kΩ		"
R411	QVZ5205-002	100 kΩ		"
R412	QVZ5205-002	100 kΩ		"
R413	QVZ5205-002	100 kΩ		"
R414	QVZ5205-002	100 kΩ		"
R415	QVZ5205-002	100 kΩ		"
R416	QVZ5205-002	100 kΩ		"
R417	QVZ5205-002	100 kΩ		"
R418	QVZ5205-002	100 kΩ		"
R419	QVZ5205-002	100 kΩ		"
R420	QVZ5205-002	100 kΩ		"
R421	QRD141J-101S	100 Ω	1/4 W	Carbon
R422	QRD141J-101S	100 Ω	1/4 W	"
R423	QRD141J-101S	100 Ω	1/4 W	"
R424	QRD141J-101S	100 Ω	1/4 W	"
R425	QRD141J-101S	100 Ω	1/4 W	"
R426	QRD141J-101S	100 Ω	1/4 W	"
R427	QRD141J-101S	100 Ω	1/4 W	"
R428	QRD141J-101S	100 Ω	1/4 W	"
R429	QRD141J-560S	56 Ω	1/4 W	"
R430	QRD141J-560S	56 Ω	1/4 W	"
R431	QRD141J-121S	120 Ω	1/4 W	"
R432	QRD141J-121S	120 Ω	1/4 W	"
R433	QRD141J-121S	120 Ω	1/4 W	"
R434	QRD141J-121S	120 Ω	1/4 W	"
R435	QRD141J-121S	120 Ω	1/4 W	"
R436	QRD141J-121S	120 Ω	1/4 W	"
R437	QRD141J-121S	120 Ω	1/4 W	"
R438	QRD141J-121S	120 Ω	1/4 W	"
R439	QRD141J-121S	120 Ω	1/4 W	"
R440	QRD141J-121S	120 Ω	1/4 W	"
R601	QRD149J-220S	22 Ω	1/4 W	UNF Carbon (See below)
R601	QRZ0052-220	22 Ω	1/4 W	Fusible (See below)
R602	QRD141J-392S	3.9 kΩ	1/4 W	Carbon
R603	QRD141J-562S	5.6 kΩ	1/4 W	"
R604	QRD141J-150S	15 Ω	1/4 W	"
R605	QRD141J-184S	180 kΩ	1/4 W	"
R606	QRD141J-103S	10 kΩ	1/4 W	"
R607	QRD141J-104S	100 kΩ	1/4 W	"
R608	QRD149J-151S	150 Ω	1/4 W	UNF Carbon (See below)
R608	QRZ0052-151	150 Ω	1/4 W	Fusible (See below)
R801	QRD141J-222S	2.2 kΩ	1/4 W	Carbon

Resistors

Item No.	Part Number	Rating		Description
R802	QRD141J-222S	2.2 kΩ	1/4 W	Carbon
R803	QRD149J-101S	100 Ω	1/4 W	UNF Carbon (See below)
R803	QRD0052-101	100 Ω	1/4 W	Fusible (")
R804	QRD149J-101S	100 Ω	1/4 W	UNF Carbon (See below)
R804	QRZ0052-101	100 Ω	1/4 W	Fusible (")
R805	QRD149J-2R2S	2.2 Ω	1/4 W	UNF Carbon
R806	QRD149J-2R2S	2.2 Ω	1/4 W	"
R807	QRD149J-100S	10 Ω	1/4 W	" (See below)
R807	QRZ0052-100	10 Ω	1/4 W	Fusible (")
R808	QRD149J-100S	10 Ω	1/4 W	UNF Carbon(")
R808	QRZ0052-100	10 Ω	1/4 W	Fusible (")
R809	QRD149J-100S	10 Ω	1/4 W	UNF Carbon(")
R809	QRZ0052-100	10 Ω	1/4 W	Fusible (")
R810	QRD149J-100S	10 Ω	1/4 W	UNF Carbon(")
R810	QRZ0052-100	10 Ω	1/4 W	Fusible (")
R851	QRD141J-821S	820 Ω	1/4 W	Carbon
R852	QRD141J-271S	270 Ω	1/4 W	"
R853	QRD141J-271S	270 Ω	1/4 W	"

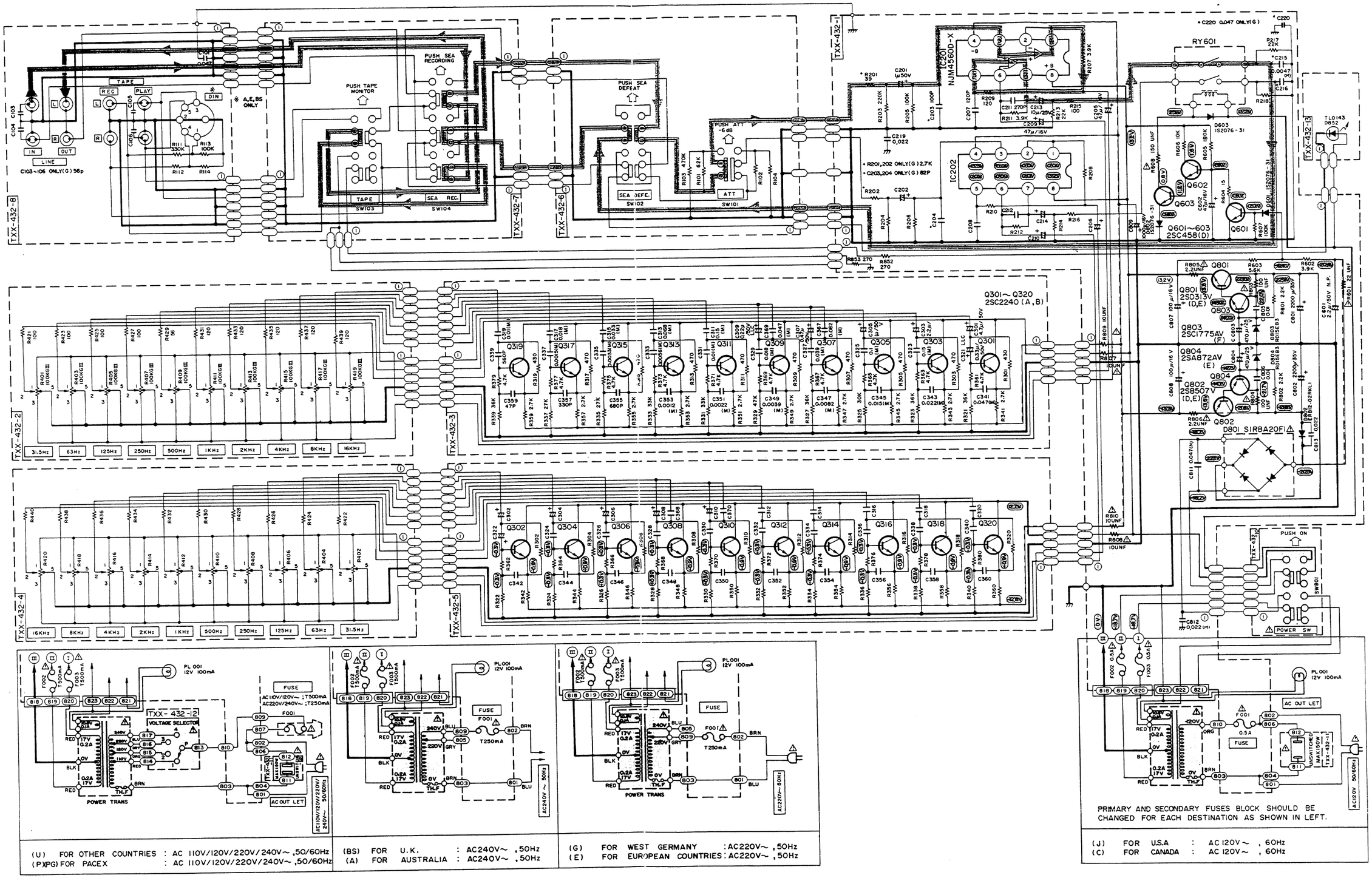
Others

Item No.	Part Number	Description
	QSR0074-001	Voltage Selector (See back cover)
	EMN00TP-403A	4P Pin Jack
	E03623-003	DIN Socket (See back cover)
	QMC0231-004	AC Socket (")
	E45524-002	Fuse Clip (")
	EMG7331-001	Fuse Clip (")
	E10806-001	Circuit Board (")
	E10806-001BS	" (")
	E66342-001	Voltage Selector Holder (")
	SBSB3008Z	Tapping Screw
	SBSB3008Z	"
	E60171-006	Heat Sink
	E65396-001	Earth Plate
RY601	ESK2D12-212	Relay
SK301	E04365-005	F.W. Socket
SK302	E04365-005	"
SK303	E04365-005	"
SK304	E04365-005	"
SW101	QST3241-E02	Push Switch (ATT, DEFEAT)
SW103	QST3241-E01	" (SEA REC, MONI.)
SW801	QST4101-E05	" (POWER)

Specified Numbers in TXX-432 for Designated Areas

No.	Description	Item No.	U.S.A. & Canada	Europe & Australia	West Germany	U.K.	U.S. Military Market & Other Countries
1	P.C. Board	–	TXX-432J (for U.S.A.) TXX-432K (for Canada)	TXX-432M	TXX-432Q	TXX-432LBS	TXX-432P
2	Comp. Resistor	R001	QRC121K-275EM	–	–	–	–
3	Carbon Resistor	R111, 112	–	QRD141J-104S	QRD141J-104S	QRD141J-104S	–
4	"	R113, 114	–	QRD141J-334S	QRD141J-334S	QRD141J-334S	–
5	"	R201, 202	QRD141J-390S	QRD141J-390S	QRD141J-561S	QRD141J-390S	QRD141J-390S
6	UNF Resistor	R601	QRD149J-220S	QRZ0052-220	QRZ0052-220	QRZ0052-220	QRZ0052-220
7	"	R608	QRD149J-151S	QRZ0052-151	QRZ0052-151	QRZ0052-151	QRZ0052-151
8	"	R803, 804	QRD149J-101S	QRZ0052-101	QRZ0052-101	QRZ0052-101	QRZ0052-101
9	"	R807–810	QRD149J-100S	QRZ0052-100	QRZ0052-100	QRZ0052-100	QRZ0052-100
10	Ceramic Capacitor	C203, 204	QCS31HJ-101Z	QCS31HJ-101Z	QCS31HJ-331Z	QCS31HJ-101Z	QCS31HJ-101Z
11	Mylar Capacitor	C215, 216	QFM31HK-472Z	QFM31HK-472Z	QFM31HK-103Z	QFM31HK-472Z	QFM31HK-472Z

7. SEA-33 Schematic Diagram



(U) FOR OTHER COUNTRIES : AC 110V/120V/220V/240V~ ,50/60Hz
(P)(PG) FOR PACEX : AC 110V/120V/220V/240V~ ,50/60Hz

(BS) FOR U.K. : AC240V~ ,50Hz
(A) FOR AUSTRALIA : AC240V~ ,50Hz

(G) FOR WEST GERMANY : AC220V~ ,50Hz
(E) FOR EUROPEAN COUNTRIES : AC220V~ ,50Hz

(J) FOR U.S.A : AC 120V~ , 60Hz
(C) FOR CANADA : AC 120V~ , 60Hz

Notes:

1. ——— indicates positive B(+) power supply.
2. ----- indicates negative B(—) power supply.
3. ▭▭▭ indicates signal path.
4. When replacing the parts in the darkened area (▭) and those marked with △, be sure to use the designated parts to ensure safety.
5. This is the standard circuit diagram.
   The design and contents are subject to change without notices.

8. Packing Meterials and Part Numbers

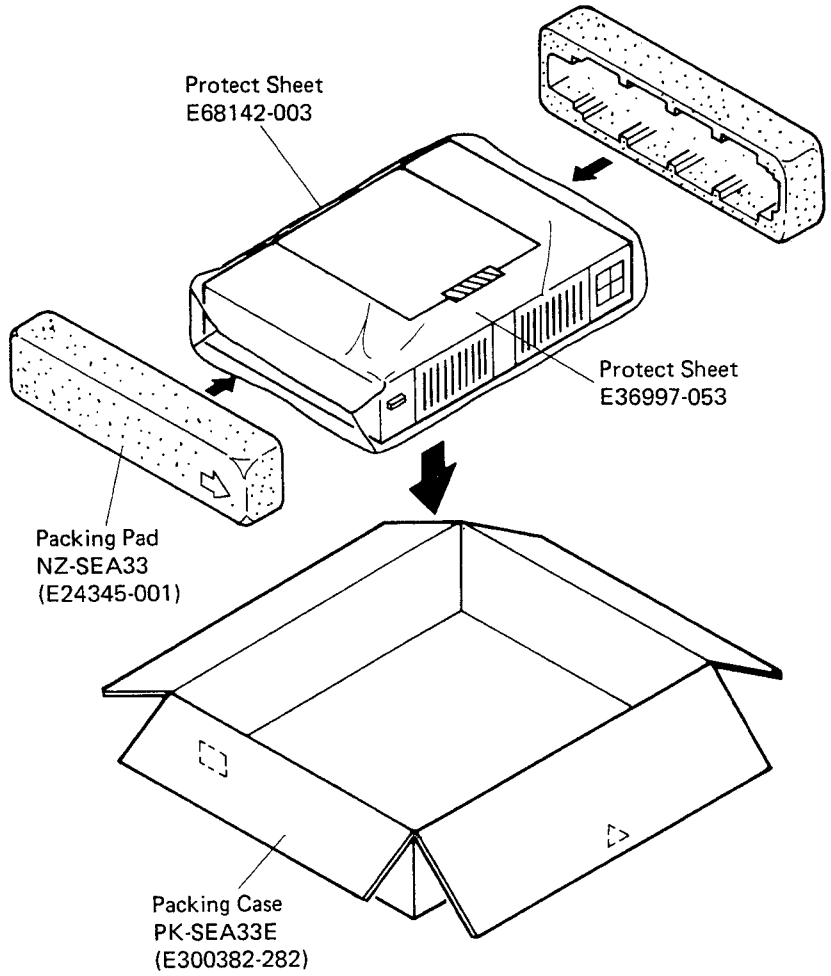


Fig. 6

9. Accessories List

No.	Description	Q'ty	U.S.A. & Canada	Europe & Australia	West Germany	U.K.	U.S. Military Market & Other Countries
1	Instruction Book	1	E30580-1108A	E30580-1108A	E30580-1108A	E30580-1108ABS	E30580-1108A
2	Signal Cord	2	E03479-001B	E03479-001B	E03479-001B	E03479-001B	E03479-001B
3	Envelope	1	E41202-2	E41202-2	E41202-2	E41202-2	E41202-2
4	Service Information Card	1	BT20046A (for U.S.A. only)	—	—	—	BT20046A (for U.S. Military Market only)
5	Safety Instruction Sheet	1	BT20044D (for U.S.A. only)	—	—	—	—
6	FTZ Information	1	—	—	BT20054-006A	—	—
7	Fuse (within)	1	—	—	—	—	QMF51A2-R50L (for 110/120 V) QMF51A2-R25L (for 220/240 V)
8	Envelope (for Fuse)	1	—	—	—	—	E64208-001
9	Siemens Plug ⚠	1	—	—	—	—	E04056
10	Waranty Card	1	BT20048 (for U.S.A.) BT20025F (for Canada)	BT20029C (for Australia only)	BT20057	BT20013C	BT20048 (for U.S. Military Market only)

⚠: Safety Parts

10. Parts List with Specified Numbers for Designated Areas

No.	Description	U.S.A. & Canada	Europe & Australia	West Germany	U.K.	U.S. Military Market & Other Countries
1	Power Transformer ⚠	ETP1010-12JA	ETP1010-12EB	ETP1010-12EB	ETP1010-12EBBS	ETP1010-12HA
2	Power Cord ⚠	QMP1200-200	QMP3900-200 (for Europe) QMP2560-244 (for Australia)	QMP3900-200	QMP9017-008BS	QMP7600-250
3	AC Socket ⚠	QMC0231-004	—	—	—	QMC0231-004
4	DIN Socket	—	E03623-003	E03623-003	E03623-003	—
5	Voltage Selector ⚠	—	—	—	—	QSR0074-001
6	Voltage Selector Holder	—	—	—	—	E66342-001
7	Fuse (Primary F001) ⚠	QMF61U1-R50	QMF51A2-R25L	QMF51A2-R25L	QMF51A2-R25LBS	QMF51A2-R50L (for 110/120 V) QMF51A2-R25L (for 220/240 V)
8	Fuse (Secondary F002, 003) ⚠	QMF61U1-R50	QFM51A2-R50L	QFM51A2-R50L	QFM51A2-R50L	QFM51A2-R50L
9	Fuse Socket ⚠	—	—	—	—	QMG0301-003
10	Fuse Clip ⚠	E45524-002	EMG7331-001	EMG7331-001	EMG7331-001	EMG7331-001
11	Primary Cover	—	E302271-001	E302271-001	E302271-001	—
12	Fastener	—	E302321-001	E302321-001	E302321-001	—
13	Rear Panel	E24342-007	E24342-009	E24342-009	E24342-009	E24342-008
14	Chassis Base	E10672-006	E10672-006	E10672-006	E10672-006	E10672-007

⚠ : Safety Parts

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SERVICE MANUAL

MODEL
SEA-33

S.E.A. GRAPHIC EQUALIZER

SUPPLEMENT

This model has two types, silver(original)type and black(New)type on the appearance. When using this service manual, refer to the SEA–33 service manual(No.2651 JAN.1983) published previously.

No. 2651B
MAR.1983

Specified Numbers on the Appearance for Designated Types

Description	Part Number		Remarks
	Silver(Original)	Black(New)	
Front Panel Ass'y	EFP-SEA33E	EFP-SEA33E(B)	
Push Knob Ass'y	E70055-004	E70055-006	
Push Knob Ass'y	E70055-005	E70055-007	
Rear Panel	E24342-009	E24342-011	
Metal Cover	E24344-004	E24344-005	
Packing Case	PK-SEA33E	PK-SEA33E(B)	

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